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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,376	04/30/2004	Steven E. Charlebois	BUR920040056US1	3375

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EXAMINER

SIEK, VUTHE

ART UNIT	PAPER NUMBER
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2825

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/709,376		CHARLEBOIS ET AL.	
	Examiner		Art Unit	
	Vuthe Siek		2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/30/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to application 10/709,376 filed on 4/30/2004.

Claims 1-18 remain pending in the application.

Claim Objections

2. Claims 2, 8 and 14 are objected to because of the following informalities: "said final netlist list" should be changed to --said final netlist file--, to clearly define the claim language. Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-3, 5-9, 11-15 and 17-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1-3, 5-9, 11-15 and 17-18 appear to be to an abstract idea rather than a practical application of the idea. Claims 1-3, 5-9, 11-15 and 17-18 do not result in a physical transformation nor do it appear to provide a useful, concrete and tangible result. For example, claims 1-3, 5-9, 11-15 and 17-18 appear to be to an abstract idea (performing formal verification on a snip file, converting snip file, modifying netlist file, modifying snip file) rather than an application of the idea because the claim invention does not provide a practical application that produce a useful, concrete and tangible result. A tangible requirement does require that the claim must recite more than a 101 judicial exception to produce a

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real-world result. Therefore, the claim invention appears non-statutory. Claim 4 for example does provide a useful, concrete and tangible result because the final netlist file is sending to manufacturing to produce a useful and concrete result.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 4, 5, 7, 10, 11, 13, 16 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by McIlwain et al. (6,668,362 B1).

7. As to claims 1, 7 and 13, McIlwain et al. teach a method/a computer program product/system for performing static timing analysis on an IC design comprising performing static timing analysis on final circuit netlist utilizing a snip file (Fig. 3, static timing analysis is performed as shown by block 320 on implementation design 302a-e; col. 5 lines 18-25); converting said snip file to a plurality of cutpoints after said final circuit netlist met all timing constraints under said static timing analysis (Fig. 5 describes how a miter (cut point) is created from blocks 501-505); performing formal verification (equivalent checker on blocks 306 & 307 Fig. 3 on 302e; Fig. 5 shows how to solve miter by formal verification in step 507); determining whether or not said plurality of

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cutpoints pass said formal verification (Fig. 5 step 507); and in response to a determination that said plurality of cutpoints do not pass said formal verification, issuing a flag to alert a user or when verification is not successful cut points are selectively removed and a new miter is created and run that does not include the cut points removed in step 508 (col. 7 lines 33-44; Fig. 5). It is noted that the advantage of the invention is to eliminate false-negative results without requiring the setup of hierarchical verification (col. 8 lines 9-24).

8. As to claims 4, 10 and 16, it is noticed that file 302e in Fig. 3 when verification is satisfied must be sent to manufacturing to produce a chip.

9. As to claims 5, 11 and 17, McIlwain et al. teach performing formal verification (equivalence checker block 306 Fig. 3) further includes performing a functional equivalence comparison between said plurality of cutpoints and corresponding HDL design of said plurality of cutpoints (equivalence checking between reference design in HDL design 301 (col. 5 lines 14-25) and implementation design 302a).

Allowable Subject Matter

10. Claims 2-3, 6; 8-9, 12; 14-15 and 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 101, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The prior art of record does not teach or fairly suggest modifying said final netlist file and returning to said performing static timing analysis with said modified final circuit netlist in response to a determination that said plurality of cutpoints do not pass said formal verification (claims 2, 8 and 14); modifying said snip file and returning to said converting said snip file with

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said modified snip file in response to a determination that said plurality of cutpoints do not pass said formal verification (claims 3, 9 and 15); and said snip file includes signals and/or timing paths that are not subject to said static timing analysis (claims 6, 12 and 18).

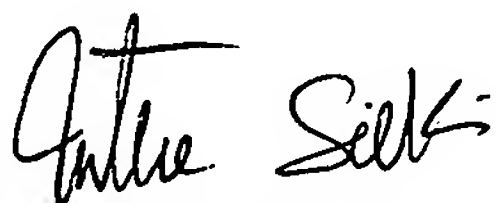
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vuthe Siek whose telephone number is (571) 272-1906.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on (571) 272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vuthe Siek


VUTHE SIEK
PRIMARY EXAMINER